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## STUDIES OF PERUVIAN BIRDS. IX<sup>1</sup>

### THE FORMICARIAN GENUS *THAMNOPHILUS*. PART I

BY JOHN T. ZIMMER

I am greatly indebted to Dr. C. E. Hellmayr for observations on certain material in Vienna not accessible to me for present study. I am also under obligations to Mr. W. E. C. Todd of the Carnegie Museum, Pittsburgh, for the loan of certain specimens used in the account.

#### ***Thamnophilus doliatus subradiatus* Berlepsch**

*Thamnophilus subradiatus* BERLEPSCH, 1887, Journ. Orn., XXXV, p. 17—obern Amazonas (Yquitos, etc.)=Iquitos, Perú; ♂; Berlepsch Coll., Frankfort Museum.

*Thamnophilus variegaticeps* BERLEPSCH AND STOLZMANN, 1896, P. Z. S. London, p. 379—La Merced, Chanchamayo, Perú; Frankfort Museum and Warsaw Museum.

Forty skins from various parts of Perú demonstrate the extreme variability of this bird. With one or two selected skins from different parts of the country it would be possible to point out certain differences and separate several subspecies, but the more material that is examined, the less constant these variations appear.

Typical examples from Puerto Indiana, a little east of Iquitos, are relatively dark in both sexes. The males are rather narrowly barred with white on the back and have the black and white bands of the under parts about equal in width. The forehead is moderately widely marked with whitish scratches and the median line of the crown has some traces of white on the margins or bases of the feathers. In the occipital region, the shorter plumes of the crest have a pair of rather large, rounded, white spots on each, sometimes nearly meeting at the shaft. Young males, which may lack the white on the crown, show this occipital character well.

A female from this region has the upper and under parts somewhat deeper in tone than they are in skins from other parts of Perú except the southeast. Two females from Jaen, middle Marañón, are, however, almost as dark and whatever may be done with skins from other regions, these, I believe, must go with typical *subradiatus*.

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<sup>1</sup>Earlier papers in the series comprise American Museum Novitates Nos. 500, 509, 523, 524, 538, 545, 558, and 584.

A number of skins from the Chanchamayo Valley are inclined to average paler than the Puerto Indiana and Jaen examples. The males have the white bars of the back slightly wider and, perhaps, purer white; the throat may be more lightly streaked, and the rest of the under parts have the white bars rather wider than the black ones which latter are somewhat duller and not so deeply black as in typical *subradiatus*. The females are a little less deeply rufous on the cap, correspondingly paler on the back, and still paler below, sometimes buffy rather than ochraceous. Some females, however, are almost as dark as the Jaen examples. Two females from Moyobamba (in Field Museum of Natural History) are paler than one from the Chanchamayo region, with which I compared them, and two males (one immature) from Moyobamba have more extensive white than two Chanchamayo males.

The original description of "*variegaticeps*" notes the crest as having white markings on the median plumes, but this is not the case in the males at hand. The white dorsal bars are said to be wider in "*variegaticeps*" males than in *subradiatus* males, and I have already mentioned that there is a tendency in this direction.

One male from La Merced is peculiar in that the black bars of the under side are noticeably wider than the white ones, which brings its appearance very close to that of typical *subradiatus*, though the dorsal bars are clearer white and black than in the Puerto Indiana specimens.

A few skins from the Urubamba Valley are again different. The males have even more white below than the Chanchamayo skins and one of them, from Santa Ana, has very extensive white basally along the middle line of the crown. In general appearance the males from this region are very like others from the Rio Madeira, Brazil, but the females are not clearly different from the Chanchamayo females. This is particularly significant in view of the fact that Berlepsch and Stolzmann (Ornis, XIII, p. 93, 1906) refer six specimens from Santa Ana to the supposedly darker *subradiatus* rather than to the supposedly lighter "*variegaticeps*."

Skins from the Ucayali Valley are as variable as those from the other regions. Some of the males are darker than those of typical *subradiatus*, with narrow white bars on the back, no white on the median line of the crown, reduced white on the forehead and the occipital region, and decidedly reduced white on the lateral margins of the tail and wings. One male from Santa Rosa has the white very markedly reduced on the wings and tail, but another male from the same locality has the white as broad as in the Chanchamayo birds; a male from Sarayacu has an intermediate amount of white on the tail and wings but the white bars of the back are reduced to very narrow lines.

Females from the Ucayali are rather pale, like those of "*variegaticeps*," with the forehead a little more buffy than the crown (whereas in other *subradiatus* crown and forehead are more uniform). Thus, while the males are often darker than those from the Chanchamayo region and possibly reach the darkest extreme of *subradiatus*, the females are relatively pale.

Nevertheless, Taczanowski ('Orn. Pér.,' II, pp. 19-21, 1884) assigns some Sarayacu material to *doliatus* and other specimens to *radiatus*, which argues for some degree of variation in this region.

Two males and a female from Teffé, Brazil, are fairly close to the Ucayali series, and a female from Orosa, Perú, is likewise similar. The Teffé males have a little more white in the markings than the darker Ucayali males, but not so much as the palest of them.

The dark coloration of the Puerto Indiana female is of doubtful value since an extensive series of females of a closely related form on the Rio Madeira shows a range of variation covering both extremes.

As in the case of *T. palliatus berlepschi* (cf. p. 13), young males may have the white markings unduly emphasized. Thus, a young male from Jaen and another from the mouth of the Curaray, eastern Ecuador, have more extensive white both above and below than adults from Puerto Indiana and are like Chanchamayo males. A young male from Anayacu is no lighter than usual above but the black bands on the breast tend to stop short of the lateral margins of the feathers and thus often form lunules rather than bars. All three of these young birds have the crest well developed but without any decided amount of white on the median feathers.

A male and a female from Astillero, southeastern Perú, are both very dark. The female is so richly colored as to match Rio Madeiran females almost as closely as north-Peruvian ones, though there is more of light auburn than of chestnut in the tone of the back, as in true *subradiatus*. The position of Astillero on an upper affluent of the Rio Madeira drainage makes the association with the Rio Madeira plausible, so far as the female is concerned. The male, however, being equally very dark, agrees with dark Ucayali birds but not at all with Rio Madeiran ones. Therefore, in spite of the geographic situation of Astillero on the drainage of the Rio Madeira, birds from southeastern Perú may be left with *subradiatus*.

Localities in Perú, other than those in the subjoined list of specimens examined, from which *subradiatus* is known, are Nauta, Pebas, Iquitos, Samiria, Bellavista, Amable Maria, Monterico, San Miguel Bridge, Huiro, and Maranura.

Skins from northern Bolivia and northwestern Matto Grosso, Brazil, do not agree exactly with any of the known forms and yet do not appear to form a distinct group. The males are relatively paler than typical *subradiatus*, agreeing better with the birds from the Chanchamayo and Urubamba regions, but the females are decidedly dark and agree rather well with that sex of *difficilis*; the males are not quite so pale as *difficilis*, with less white on the forehead.

On the lower Amazon, from the left bank of the Madeira to the right bank of the Tapajoz, it is possible to distinguish a fairly well-marked form. The males usually have the white bars of the back decidedly broader than in *subradiatus* (though slightly narrower than in *capistratus*) and the under parts more extensively whitish, relatively unmarked on the abdomen; the crest is rather short, and the forehead is only moderately marked with white, never as strongly as in *difficilis*. The females are quite deeply colored, averaging darker than *subradiatus*. These birds are closer to *difficilis* than to *subradiatus*, but the males have the barring of a bolder pattern than in either of the other forms. None of the males are as dark as the darkest *subradiatus*, but some of them approach the paler examples of the east-Peruvian form.

Our skins from Faro (Rio Jamundá) and Igarapé Cacao Pereira (Rio Negro), north of the Amazon, unquestionably do not belong to typical *doliatus* (which, however, reaches the Amazon at Marajó Island) but are inseparable from this south-bank form. A hint of the same situation is found in Hellmayr's note accompanying his original description of *difficilis* where a male from Obidos is assigned to *difficilis* though later (1924), it was transferred by Hellmayr to *doliatus*. There are other records of *doliatus* from Faro, Obidos, and Monte Alegre, and possibly certain skins from that region may resemble the Guianan form. Those at hand certainly are not of that subspecies.

A single male from Marajó has the black and white barring of both upper and under parts wider than in the Guianan skins of *doliatus* at hand, being better matched in certain Venezuelan specimens of *fraterculus*, but, in any case, the white of the crown is too extensive to permit association with the new form. A female from Marajó has a more whitish throat than the true *doliatus* females at hand and, except for a shorter crest, much resembles females from Maranhão, of which more will be said later.

The new form may be characterized as follows:



***Thamnophilus doliatus signatus*, new subspecies**

TYPE from Santarem, Rio Tapajoz, Brazil. No. 288,508, American Museum of Natural History. Adult male collected August 13, 1931, by A. M. Olalla.

DIAGNOSIS.—Similar to *T. d. subradiatus* of upper Amazonia, but males with dorsal white bars decidedly broader; throat with narrower white streaks; breast, sides, and flanks with white bars broader and clearer (but black bars not reduced as in *radiatus*); belly with black bars less distinct, sometimes partially obsolete; under wing-coverts more extensively white. Females with coloration warmer in tone.

RANGE.—South bank of the Amazon from the left bank of the Rio Madeira eastward to the right bank of the Tapajoz, crossing to the north bank of the Amazon at the mouths of the Jamundá and Negro, and apparently ascending the Madeira and its tributaries to northern Matto Grosso and northern Bolivia.

DESCRIPTION OF TYPE.—Top of head crested, black, with the feathers of the forehead and superciliary region margined laterally with faintly grayish white; hind neck with a small whitish spot on each margin of the feathers; back black with two or three white bars (about 1.5 mm. wide) on each feather, separated by black interspaces about 5 mm. wide; a little suggestion of a silky white patch concealed on the mantle; upper tail-coverts black with white bars more or less interrupted at the shaft. Lores grayish white with some blackish at tips; sides of head and neck with black shaft-stripes and wide white margins; chin and throat white with narrow sooty shaft-lines; breast, sides, and flanks white with black bars about 1 mm. wide separated from each other by interspaces of white from 2–3 mm. in width; belly white, with dark bars much narrower and less distinct; thighs black with white margins and shaft-stripes; under tail-coverts white, with dark bars distinct; under wing-coverts white, nearly immaculate except near radial margin; axillaries with more or less distinct bars. Wings blackish, with large quadrate or triangular white spots on both inner and outer margins of the remiges; upper wing-coverts with similar marginal spots, the distal pair on the various feathers meeting to form a continuous subapical band. Tail black with seven to eight pairs of large marginal spots of white. Maxilla black (in dried skin); mandible light slate; feet dark slate. Wing, 76 mm.; tail, 63; exposed culmen, 17.5; culmen from base, 22; tarsus, 26.5.

REMARKS.—Females with crest chestnut; back Burnt Sienna x Sanford's Brown<sup>1</sup>; hind neck more or less indistinctly streaked with dusky; lores buffy; sides of head and superciliary stripe with blackish shaft-stripes and ochraceous or buffy margins; throat rather deep ochraceous, sometimes with narrow blackish hair-lines on shafts; rest of under parts much richer, tawny-ochraceous-buff. Wings and tail light Chestnut x Auburn; inner margins of remiges light cinnamonaceous; under wing-coverts ochraceous-buff. Wings, 72–75 mm.; tail, 59–65.

The association of this new form with the inhabitants of the upper Rio Madeira and its affluents in northern Matto Grosso and northern Bolivia is not unquestionable. A perfect transition is observable between the Tapajoz skins through the Madeiran series to the north-

<sup>1</sup>Names of colors when capitalized indicate direct comparison with Ridgway's 'Color Standards and Color Nomenclature.'

Bolivian specimens; as mentioned earlier, a female from southeast Perú could be placed in this series without comment if a male from the same region was not better in accord with true *subradiatus*. The Paraguayan subspecies, *radiatus*, is found also in Bolivia and Matto Grosso, southern Brazil, but it is restricted to rivers with a southward flow, the Paraguay and Paraná, while the new form does not cross the watershed but inhabits the valleys of the Madeira and Tapajoz which flow northward into the Amazon.

The Goyaz form, *difficilis*, is also on the northern slope of this watershed. It would appear to range northward to the state of Maranhão, for Hellmayr (1929) identifies various Maranhão skins as his *difficilis*. Such Maranhão and northwestern Piauhys specimens as I have at hand do not support this allocation as well as I would like and are different from a pair of Goyaz skins that must be *difficilis*. The Maranhão males are unusually extensively white above and below; the crest is exceedingly long and full but without much medial white. The females are paler than the Goyaz female and have the crest (as in the males) exceedingly long and full. Without seeing more material from Goyaz, it is difficult to say what distinctions, if any, may be constant in this region.

I am unacquainted with the form, *novus*, described from western São Paulo.

#### ***Thamnophilus doliatus zarumae* Chapman**

*Thamnophilus zarumae* CHAPMAN, 1921, Amer. Mus. Novit., 18, p. 6—Zaruma, Prov. del Oro, W. Ecuador; ♂; Amer. Mus. Nat. Hist.

One male from Milagros, northern Piura, Perú, agrees closely with the type and other specimens from southwestern Ecuador. Ten birds of both sexes from the southern part of the Province of Piura are, however, noticeably different and deserve separation as follows.

#### ***Thamnophilus doliatus palambiae*, new subspecies**

TYPE from Palambia, Department of Piura, Perú, altitude 3900–6500 ft. No. 175,251, American Museum of Natural History. Adult male collected September 19, 1922, by Harry Watkins; original number 6082.

DIAGNOSIS.—Similar to *T. d. zarumae* Chapman of southwestern Ecuador and the northern part of the Department of Piura, Perú, but males with the upper part of the mantle and the inner scapulars strongly olivaceous gray with few, if any, white or black markings; most anterior of the white markings on mantle small and rounded and with less extensive black markings surrounding the white; white marks on rest of mantle duller, less pure white and inclined to form lunules or spots rather than broad bars; rump deeper and more brownish olive with less prominent barring; median portion of upper tail-coverts olivaceous; white marks on lateral feathers of the crest and on the nape not so broad nor distinct; lores duller, less purely white;

throat tinged with buff and with dark streaks less distinct; breast also tinged with buff and with dark bars duller, less blackish and less distinct; belly more buffy and flanks and crissum more strongly ochraceous; outer margins of remiges more strongly grayish and with white spots usually smaller. Females darker above; top of the head darker rufous than in *zarumae*; upper part of mantle and inner scapulars more brownish olive and less rufous; rump browner; flanks averaging deeper ochraceous; middle of belly more buffy, less whitish.

RANGE.—Southern part of the Department of Piura, Perú, in the neighborhood of the upper Río de Piura.

DESCRIPTION OF TYPE.—Top of head black; feathers of forehead with marginal spots of dull whitish; a broad superciliary stripe similarly marked; crown and occiput crested, with lateral feathers having a more or less distinct whitish spot on outer margins; nuchal feathers with a small whitish spot on both margins; hind neck grayish, with dusky subterminal areas and traces of whitish spots on the margins; upper mantle and inner scapulars Grayish Olive to Light Grayish Olive; remainder of mantle and outer scapulars with alternating black and white bands, the distal white mark of each feather somewhat lunulate; in the area immediately following the olive-colored region of the anterior mantle, the white spots are small and rounded and only narrowly bordered by black; slight suggestions of a concealed patch of silky white on middle of some mantle feathers; lower back marked like mantle but pale areas are tinged with Grayish Olive; rump Light Brownish Olive to Isabella Color; upper tail-coverts terminally barred with black and white, but median portion tinged with buffy olive. Lores whitish, faintly buffy, with black, hair-like tips; auriculars and malar region white with suggestions of dusky bars or streaks; chin and throat buffy whitish with broad gray bases and dull brownish subterminal spots, not very conspicuous; breast and sides also slightly buffy with two or three dusky bars on each feather, dull and not sharply outlined; belly whitish buff; flanks and crissum a little darker than Chamois, with the upper flanks duller and indistinctly barred with dusky; the longest under tail-coverts more strongly barred. Tail graduated, outer rectrices 14 mm. shorter than middle ones; black with seven pairs of marginal white spots, the distal pair almost meeting at shaft. Wings sooty black with outer margins dark gray, widest basally, and with a row of small whitish spots spaced in the gray border which is inclined to blackish immediately around the white spots; upper wing-coverts blackish with white or buffy bars; inner margins of remiges white except distally, occasionally broken into spots by the crenate margin of the darker median portion of the webs; under wing-coverts pale buff. Bill blackish (in dried skin), mandible paler; feet slaty. Wing, 70 mm.; tail, 62.5; exposed culmen, 15; culmen from base, 20; tarsus, 26.

REMARKS.—Females have the top of the head crested, Auburn to Chestnut; forehead grayish buff; lateral crest-feathers somewhat ochraceous on outer margins; superciliary stripe, sides of neck, and hind neck with dusky shaft-stripes and dull, buffy grayish margins; upper part of mantle nearly Light Brownish Olive; inner scapulars similar but slightly more rufescent; rump warm Dresden Brown; rest of back deep Sanford's Brown with an obsolete dusky subterminal spot and with some traces of a pale Ochraceous-Salmon spot at the shaft in the median area.



Lores pale, dull buff; sides of head as in the male but more buffy; chin and throat light ochraceous buff with the markings of the male sub-obsolete; breast and sides deeper than throat and with obsolete darker bars; belly light buff; flanks and crissum deep Clay Color, lighter on upper flanks. Tail light Auburn with varyingly distinct traces of dark bars, more distinct subterminally; wings dull blackish with outer margins of remiges light Auburn, those of inner remiges varied on occasion by dusky spots; inner margins pinkish buff except at tips; greater and median upper wing-coverts Auburn x Sanford's Brown with dusky bars; lesser coverts more olivaceous with a buffy spot near tip; under wing-coverts pale ochraceous buff. Bill and feet as in male. Wings, 67-71 mm.; tail, 62-66; exposed culmen 14.75-15; culmen from base, 20-21; tarsus, 26-27.

At first glance, the specimens from Palambla suggest the assumption that they are immature examples of *zarumae* but various examples of immature *zarumae* are at hand for comparison and, while easily distinguishable from the adults of that form, do not show the characters which distinguish *palamblae*. The young of both forms are as readily distinguishable as the adults. Immature males of *zarumae* have the upper mantle somewhat tinged with olive, but the barring there and on the inner scapulars is as in adult *zarumae* and not reduced or obsolete. The under parts in young *zarumae* are more buffy than in the adults, resembling the color in adult *palamblae* but young *palamblae* are even more richly colored. The barring on the chest is alike in young and adults of either form, much reduced in *palamblae*. Many of the specimens of *zarumae* were taken in September as were all of the skins of *palamblae*, so the series are quite comparable in regard to season. A certain amount of geographical separation appears to exist to add to the bases for the distinction of the new form.

#### SPECIMENS EXAMINED

*T. d. dolius*.—DUTCH GUIANA: Paramaribo, 1♂, 1♀. FRENCH GUIANA: Approuague, 1♂, 1♀. BRAZIL: Ilha Marajó, Chaves, 1♂, 1♀; Rio Surumú, Frechal, 3♂; Rio Branco, Caracahy, 1♀.

*T. d. capistratus*.—BRAZIL: Bahia, Barra, 1♂, 1♀; Piahy, Parnagua, 3♂, 1♀, 1?

*T. d. difficilis*.—BRAZIL: Goyaz, Rio Araguaya, 1♂, 1♀; Piahy, Therezina, 2♂; Os Morros, Parnahyba Delta, 1♀; Maranhão, São João dos Patos, 1♂, 1♀; Tabocas, 1♂; Pastos Bons, 1♂; Kelsú, Rosario, 1♂.

*T. d. radiatus*.—PARAGUAY: Chaco, opposite Concepción, 1♂, 5♀. ARGENTINA: Embarcacion, 3♂, 1♀. BRAZIL: Matto Grosso, Chapada, 8♂, 8♀; Urucum, 5♂, 3♀; Tapirapoan, 2♂, 1♀; Rio São Lorenzo, 1♀.



*T. d. signatus*.—BRAZIL: Rio Tapajoz, Santarem, 6 ♂ (incl. type), 5 ♀; Rio Amazonas, Villa Bella Imperatriz, 13 ♂, 6 ♀; Rio Jamundá, Faro, 5 ♂, 4 ♀; Rio Negro, Igarapé Cacao Pereira, 4 ♂, 1 ♀; Rio Madeira, Borba, 10 ♂, 4 ♀; Igarapé Auará, 4 ♂; Rosarinho, 14 ♂, 11 ♀; Santo Antonio de Guajará, 1 ♂, 1 ♀; Calamá, 1 ♀; Matto Grosso, Utiaritz, 2 ♂, 2 ♀; Jurueña, 1 ♀; Agua Blanca de Corumbá, 2 ♂; Tres Buritys, 1 ♂. BOLIVIA: Trinidad, Río Mamoré, 1 ♀; Todos Santos, 2 ♂, 2 ♀; Falls of the Río Madeira, 1 ♀; "Bolivia" (Rusby), 1 ♀; Reyes, 1 ♂; "Yungas, 18° S.," 1 ♂.

*T. d. subradiatus*.—PERÚ: Astillero, 1 ♂, 1 ♀; Santa Ana, Urubamba Valley, 2 ♂, 1 ♀; Chauillay, 1 ♀; foot of Machu Picchu, 1 ♂; La Merced, Junín, 3 ♂, 4 ♀; Perené, 1 ♀; Río Colorado, 2 ♂<sup>1</sup>, 1 ♀<sup>1</sup>; Tulumayo, 2 ♂; Santa Rosa, upper Ucayali, 2 ♂, 1 ♀; Lagarto, 1 ♀; mouth of Río Urubamba, 1 ♀; Sarayacu, 1 ♂; Orosa, Río Amazonas, 1 ♀; Puerto Indiana, 3 ♂, 2 ♀; Anayacu, 1 ♂; Jaen, 1 ♂, 2 ♀; Moyobamba, 2 ♂<sup>1</sup>, 2 ♀<sup>1</sup>. ECUADOR: mouth of Río Curaray, 1 ♂. BRAZIL: Teffé, 2 ♂, 1 ♀.

*T. d. palamblae*.—PERÚ: Palambla, 6 ♂ (incl. type), 4 ♀.

*T. d. zarumae*.—PERÚ: Milagros, 1 ♂. ECUADOR: Zaruma, 1 ♂ (type), 4 ♀; Portovelo, 6 ♂, 5 ♀; Alamor, 3 ♂, 1 ♀; Lunamá, 1 ♂; Guainche, 1 ♂, 1 ♀; Las Piñas, 1 ♂, 4 ♀; Punta Santa Ana, 1 ♂; Celica, 1 ♀; Cebollal, 1 ♀; Río Pindo, 1 ♀.

### ***Thamnophilus palliatus similis*, new subspecies**

TYPE from Chelpe, Junín, Perú, altitude 7300 feet. No. 169,681, American Museum of Natural History. Adult male collected April 27, 1921, by Harry Watkins.

DIAGNOSIS.—Similar to *T. p. palliatus* of Bahia, Brazil, but averaging darker below or lighter above and with wing and tail averaging longer, bill averaging shorter. Males with narrower and less purely white margins on the feathers of the throat; with the light portion of most of the under wing-coverts, except the primary series, whiter and less ochraceous, in greater contrast to the primary-coverts; and with the outer pair of rectrices without any trace of a subterminal dusky spot; crest a little longer, concealing more of the white dots on hind neck. Females with uropygium more nearly the color of the back; hind neck less extensively banded; crest slightly longer; a less noticeable collar of dusky-barred feathers on hind neck; cap less contrasting with mantle; under wing-coverts with primary series more ochraceous than the remainder.

RANGE.—Central Perú from the Chanchamayo Region northward to the upper Huallaga Valley, in the upper Tropical Zone.

DESCRIPTION OF TYPE.—Top of head black with fine, white, marginal spots on many of the feathers, more abundant on forehead, superciliary region, and hind neck but present also on some of the elongated feathers of the crest; back between Chestnut and Burnt Sienna, with an ill-defined area separating the mantle from the hind neck, somewhat barred with black and pale rufous, forming a transition zone; lowermost uropygial feathers terminally barred with black and white or blackish and dull ochraceous, these barred feathers somewhat concealed under the rufous tips of the overlying feathers; upper tail-coverts uniform rufous like the mantle. Lores black, with whitish subterminal bars; auriculars like forehead; sides of neck similar with

<sup>1</sup>Specimens in Field Museum of Natural History, Chicago.

white spotting a little larger; chin and throat black with narrow grayish central stripes; rest of under parts of body barred regularly with black and white, the black portions being broader than the white; flanks and thighs somewhat strongly rusty. Wings externally like the back; under primary-coverts pale ochraceous, dusky at tips, whitish just before tips, and crossed by two dusky bands, of which the more basal one is not pronounced; rest of under wing-coverts whitish, narrowly banded with blackish; inner margins of remiges dark Orange-Cinnamon. Tail like back or a little darker. Bill and feet blackish (in dried skin). Wing, 79 mm.; tail, 67; exposed culmen, 16; culmen from base, 22; tarsus, 24.

REMARKS.—Female slightly paler on the back than the male, near Sanford's Brown, and with top of head also rufous, slightly darker than the back; lower uropygial feathers less distinctly barred, under parts lighter than in the male, with the white bars slightly wider than the black ones and the white margins of the throat-feathers similarly a little broader; under wing-coverts ochraceous, barred with blackish, but the primary-coverts much deeper in color than the remainder; under tail-coverts, thighs, and flanks rather strongly rusty. Wings, 71–75 mm. (av. 73); tail, 60–66 (av. 63.38); exposed culmen, 16–18 (av. 16.8); culmen from base, 20–21 (av. 20.75); tarsus, 23–26 (av. 24.2).

Males in the series show the following measurements: wings, 73.25–79 mm. (av. 76.59); tail, 65–74 (av. 68.50); exposed culmen, 15.5–19 (av. 17); culmen from base, 21–23 (av. 21.8); tarsus, 23–25 (av. 24.4.).

The similarity of this form to typical *palliatus* of Bahia is very striking and were it not for the fact that *puncticeps* of Bolivia and south-eastern Perú intervenes between the ranges of *palliatus* and *similis*, the slight differences noted might lose their significance. In its generally accepted range, *palliatus* is not perfectly constant and skins from southern Bahia, Rio, and Espirito Santo are inclined to be paler rufous above, lighter below, and with more strongly ochraceous under wing-coverts, approaching, in these respects, *puncticeps*, which is discussed below.

When the back is dark as in *similis*, the under parts remain noticeably lighter, and often both upper and under parts are lighter in tone. If separable, this form probably should be called *vestitus* Lesson, based on *Thamnophilus lineatus* Spix (*nec Vieillot*), the type male of which is said by Hellmayr (Abh. Bay. Akad. Wiss., 2 Kl., XXII, No. 3, p. 655, 1906) to be a little less blackish below than Bahia skins. The name *badius* Swainson is probably a synonym of *vestitus*; the original plate agrees better with skins from near Rio de Janeiro than with Bahia specimens. In any case, these paler birds are even more distinct from *similis* than are the topotypes of *palliatus*, and whether their characters are sub-specific or merely alter the average range of color in *palliatus*, they

add to the distinction between *palliatu*s and *similis*, supplying either another interposed form or a greater taxonomic difference. Out of eighteen adult males from Brazil examined for the particular purpose, all but one have some trace of a dusky spot on the outer rectrices subterminally, very pronounced in some cases, barely observable in others, but not entirely lacking as in central Peruvian males. Some females and occasional young males may show the same character but it is not always present. In males of *puncticeps* it is variable, being present in some, absent in others.

The color of the flanks and the amount of white spotting on the crown of the males are too variable to be of any service. The measurements of *palliatu*s, however, give further guide to the distinctness of *similis* as may be seen by the following figures from birds of Bahia and Maranhão taken in comparison with the measurements of *similis* given above. Males: wing, 70–74 mm. (av. 72.2); tail, 59–67 (av. 64.4); culmen from base, 21–24 (av. 22.6). Females: wing, 66–72 mm. (av. 69.1); tail, 59–68 (av. 63.33); culmen from base, 20.5–24 (av. 22.3). Thus, while wing and tail average shorter than in *similis*, the bill averages longer. On the other hand, seven males from the right bank of the Tapajoz, which agree with Bahian males in points of size, length of crest, and general heaviness of coloration, fail to show the dusky spot on the outer rectrices except in two skins where it is poorly developed. One of the Tapajoz females has a small mark of this sort but two others do not. They agree with Bahia and Maranhão females in respect to pronouncedly darker cap, short crest, prominent collar of black and white or black and ochraceous bars on the hind neck, rather dull rump, and generally dark back and tail.

The Tapajoz males measure: wings, 71–74 mm. (av. 72.6); tail, 59.5–65 (av. 63.9); culmen from base, 22–23 (av. 22.7). Females: wings, 70–72 (av. 71); tail, 61.5–63 (av. 61.2); culmen from base, 21.25–22 (av. 21.7). The agreement is markedly with the measurements of the Bahia and Maranhão series of *palliatu*s rather than with *similis*, and though the character of the dusky spot on the outer rectrices does not hold, the Tapajoz birds otherwise agree with typical *palliatu*s.

The birds from the upper Huallaga Valley which I referred to *puncticeps* (Field Mus. Nat. Hist. Publ., Zool. Ser., XVII, p. 320, 1930) fall readily into this new form. Records from Garita del Sol, Amable Maria, Auquimarca, San Bartolomé, and Eneñas also belong here, without much question, as do Tschudi's specimens from central Perú,

***Thamnophilus palliatus puncticeps* Sclater**

*Thamnophilus puncticeps* SCLATER, 1890, 'Cat. Birds Brit. Mus.,' XV, pp. 207, 212—Tilotilo and Consati, Yungas of La Paz, Bolivia; ♂ ♂, ♀; cotypes in British Mus.

Ten skins from southeastern Perú and four from eastern Bolivia are at hand and although none of this material is from the type locality of Sclater's *puncticeps* part of it is from the east and part from the west of the La Paz region and may be expected to show the range of characters across the intervening space which is not unduly extensive.

Compared with birds from eastern Brazil, which represent true *palliatus* (and possibly a separable form, *vestitus*), and those from central Perú, *similis*, the fourteen skins now in question are rather readily distinguishable. The males are darker on the back than *vestitus* but paler below, with the white bands largely wider than the black ones, especially posteriorly. The amount of white spotting on the top of the head is no greater than in the other conspecifics mentioned (except in one immature male from Vermejo, Bolivia) but the white spots on the sides of the head are stronger than in true *palliatus* or in *similis*, being about as in *vestitus*. The other remiges sometimes have a dusky subterminal spot, sometimes none.

The females are decidedly more ochraceous on the under parts than those of *palliatus*, *vestitus*, or *similis*; the barred portion of the hind neck is strongly suffused with ochraceous or even rufous-ochraceous, while it is more whitish in the other forms; the under wing-coverts are buffy ochraceous, much more sparsely speckled with dusky (often only toward the carpal margin) than in the Brazilian and central Peruvian skins; the lower uropygial feathers are only obscurely barred, this area being largely concealed by the rufous tips of the overlying feathers; the lores are distinctly buffy; the top of the head is dark rufous but the back is not greatly lighter. None of the females at hand have any dusky marks near the tips of the outer rectrices.

An adult male from Barão Melgaço, Matto Grosso, and a young male from Porto Velho, Rio Madeira, appear to belong here. The adult male is lighter below than the darkest Peruvian skin of *puncticeps* and equally dark above, which is much too dark for *vestitus*. It is, however, small for the Bolivian subspecies, having the wings 70.5 mm.; tail, 61; culmen from base 23.25. The young bird is not clearly assignable but from a distributional standpoint should be closer to *puncticeps* than to the east-Brazilian forms.

The only previous records of *puncticeps* from Perú are those of two birds from Huaynapata collected by Kalinowski.



***Thamnophilus palliatus berlepschi* Taczanowski**

*Thamnophilus berlepschi* TACZANOWSKI, 1884, 'Orn. Pér.,' II, p. 22—Huambo and Chirimoto, Perú (Stolzmann and Domaniewski claim Chirimoto ♂ as type); Warsaw Mus.

Owing to the extreme similarity of the females of *berlepschi* to those of *palliatus*, *similis*, and *puncticeps*, the close resemblance of the males in the pattern of the head and the under parts, and the geographic continuity of the ranges without interference, I believe that we should consider *berlepschi* as a representative of *palliatus* and its already unquestioned conspecies.

There appears to be much variation in *berlepschi*, and the line between it and *tenuifasciatus* is not very sharply drawn. Taczanowski described the cotypes of *berlepschi* as having the white dorsal bars continuous or in part composed of isolated spots, with the bars on the tail more or less interrupted in the middle. Hellmayr (Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, pt. 3, p. 74, footnote *b*, 1924) described two males from Huayabamba and Nuevo Loreto as having the bars on the back, secondaries, and tail continuous, not interrupted. In the material at hand, these bars are usually slightly interrupted, sometimes perfectly complete, and in one male from Huarandosa very markedly interrupted, at least on the mantle and the two median pairs of rectrices (though the markings are relatively broad).

Several males from the Río Napo and its upper tributaries must belong to *tenuifasciatus* and are distinguishable from the Peruvian *berlepschi* by having the white markings of the upper surface quite definitely more finely drawn or more widely broken, or both. In none of the adult males are the bars even nearly complete except near the tips of the outer rectrices. The under parts similarly have the white bars reduced in width and the forehead has less pronounced white speckling.

The type of *tenuifasciatus*, from an unknown part of the Río Napo, is an immature male and, though the forehead is very sparsely speckled with white, the bars on the back are broader than in adult males from the Napo region and more nearly complete. In these last respects it agrees fairly well with some adult Peruvian *berlepschi*. Immature *berlepschi*, however, have the white bars even broader and more complete than adults of the same form so that the comparative distinctions of *berlepschi* and *tenuifasciatus* apparently still hold between immature males of the two forms.

A male from the "Macas Region," Ecuador, agrees well with the adult Napo skins (and so also does Domaniewski's description of

"*Thamnophilus chrostowskii*" from Mapoto, which must be synonymous with *tenuifasciatus*), but three adult males from Zamora and vicinity are not to be distinguished from north-Peruvian birds. A single female from Zamora has the inner margins of the remiges darker than in Peruvian females of *berlepschi* in which the relatively light coloration of this region is a distinguishing feature. The single female from the Napo region has these margins darker than in *berlepschi* but has a lighter back, in which respect the Zamora bird is more like *berlepschi*. I believe that the Zamora region belongs in the range of *berlepschi* though at or near its junction with that of *tenuifasciatus*.

I am strongly tempted to include *multistriatus* and *brachyurus*<sup>1</sup> of western and central Colombia, among the conspecies of *berlepschi* and *palliatu*s. The females of *tenuipunctatus* and *multistriatus* sometimes approach each other very closely, and while none of the males of the various conspecies have quite the extent of white spotting that is present on the top of the head in *multistriatus* and *brachyurus*, the character is merely a matter of degree. Two males of *puncticeps* and one of *berlepschi* have some white spotting on every feather of the head, though these spots do not meet across the shaft to form a bar (as, indeed, they do not in some *multistriatus* and *brachyurus*). Other characters are similarly variable, all no more than extreme developments of features found modified in the *palliatu*s group. The only disturbing factor is the supposed occurrence of *tenuipunctatus* at Anolaima (the type locality) where it has never been obtained by recent collectors and which is within the known range of *multistriatus*. Until this almost certain error is corrected, it will be necessary to maintain *multistriatus* as a distinct species.

Records of *berlepschi* in Perú are from Huambo, Chirimoto, Nuevo Loreto, Huayabamba, and the localities given below.

#### SPECIMENS EXAMINED

*T. p. palliatu*s.—BRAZIL: Bahia, Cajazeiras, 5♂, 1♀; "Bahia," 1♂, 1♀; Maranhão, Santa Filomena, 1♀; Rosario, 1♂, 1♀<sup>2</sup>; Tury-assú, 1♂<sup>2</sup>, 1♀<sup>2</sup>, Kelsú, 1♂, 1♀; Santa Maria de San Miguel, Rio Guamá, 1♂; Rio Tocantins (right bank), Baião, 5♂, 3♀; Mocajuba, 2♂.

*T. p. vestitu*s.—BRAZIL: Bahia (south), Verruga, Rio Pardo, 1♂; Espirito Santo, Lagôa Juparaná, 3♂, 3♀; Rio de Janeiro, 1♂; La Raiz, foot of Organ Mts., 3♂, 2♀; "Brazil," 2♂.

<sup>1</sup>*T. m. brachyurus* I can recognize by differences of size in the birds from the Cauca Valley and the western slopes of the western Andes as compared with those from the Magdalena drainage. Eight males have the tail measuring 60–64 mm. (av. 62.9) as compared with 65–69.5 mm. (av. 66.1) in six eastern birds. Six females from the west show the tail 58.5–63 mm. (av. 61.1) as compared with 63–71 (av. 66.4) from the Magdalena region. Differences of color are not so apparent though the eastern birds average slightly darker; some are indistinguishable.

<sup>2</sup>Specimens in Field Museum of Natural History, Chicago.

*T. p. puncticeps*.—BRAZIL: Porto Velho, Rio Madeira, 1 ♂; Barão Melgaço Matto Grosso, 1 ♂. BOLIVIA: Vermejo, Santa Cruz, 2 ♂, 2 ♀. PERÚ: Río Távara, 2 ♂, 5 ♀; La Pampa, 1 ♂; Candamo, 1 ♂; Río Inambari, 1 ♂.

*T. p. similis*.—PERÚ: Tulumayo, Junín, 3 ♂ (incl. type), 2 ♀; Chelpes, 1 ♂; Vista Alegre, 2 ♂<sup>1</sup>, 2 ♀<sup>1</sup>; Huachipa, 2 ♂<sup>1</sup>, 2 ♀<sup>1</sup>; Chinchao, 2 ♂<sup>1</sup>, 1 ♀<sup>1</sup>.

*T. p. berlepschi*.—PERÚ: Río Seco, west of Moyobamba, 2 ♂; Uchco, 1 ♀; Poco Tambo, 1 ♀<sup>1</sup>; Lomo Santo, 2 ♂, 1 ♀; Huarandosa, 1 ♂, 1 ♀; San Ignacio, 1 ♀; Jaen, 2 ♂; Perico, 3 ♂, 3 ♀. ECUADOR: Zamora, 3 ♂, 1 ♀.

*T. p. tenuifasciatus*.—ECUADOR: "Napo" (type), 1 ♂; below San José, 2 ♂, 1 ♀; Río Suno, above Avila, 1 ♂; Oyacachi, 1 ♂; Macas Region, 1 ♂.

*T. p. tenuipunctatus*.—COLOMBIA: Villavicencio, 3 ♂, 1 ♀; Mambito, 1 ♀.

*T. m. multistriatus*.—COLOMBIA: (Magdalena Valley), 8 ♂, 6 ♀.

*T. m. brachyurus*.—COLOMBIA: (Cauca Valley and west slope of western Andes), 14 ♂, 7 ♀.

***Thamnophilus nigrocinereus cryptoleucus* (Ménégaux and Hellmayr)**

*Myrmelastes cryptoleucus* MÉNÉGAUX AND HELLMAYR, 1906, Bull. Soc. Philom. Paris, (9) VIII, p. 30—Pebas, Perú; ♂; Paris Mus.

The correct disposition of this form has been determined by Todd (Proc. Biol. Soc. Wash., XL, p. 168, footnote, 1927) and Hellmayr (Journ. Orn., *Ergänzungsband*, II, p. 42, 1929). The material at hand corroborates their findings and also establishes a greater range than has been known heretofore. Specimens are before me from various points on the Ucayali, as far as its source in the junction of the Urubamba and Tambo rivers, and from both banks of the Amazon below the mouth of the Ucayali. Other records from Perú are from Nauta, Pebas, and Iquitos.

The eastward extension of the range in Brazil has been traced by Todd (*loc. cit.*) through São Paulo de Olivença (near the mouth of the Rio Putumayo or Ica) to Ilha Marrecão (in front of Manacapurú), but whether this extension occurs along the south or north bank of the Amazon is not clearly shown. Ilha Marrecão lies east of the mouth of the Madeira, but our skins from the west bank of the Madeira a short distance above its mouth belong to *T. n. tschudii*. The exact boundary between the ranges of these forms has yet to be shown.

Among the allied subspecies, material is available of *T. n. nigrocinereus* from the Tocantins and also from the left bank of the Xingú, a new region for this form, which extends the range westward.

One female of *T. n. cinereoniger* from the mouth of the Río Ocamo on the Cassiquiare, Venezuela, shows an approach toward the grayish dorsum described for *T. n. kulczynskii* of French Guiana which I have not seen.

## SPECIMENS EXAMINED

*T. n. cryptoleucus*.—PERÚ: mouth of Río Urubamba, 1 ♂; Río Ucayali, Lagarto, 5 ♂; Santa Rosa, 1 ♂, 1 “♂” (= ♀?); Sarayacu, 11 ♂, 8 ♀, 1 “♂” (= ♀); Río Amazonas, Orosa, “1 ♂” (= ♀); Puerto Indiana, 1 ♀.

*T. n. tschudii*.—BRAZIL: Rio Madeira, Borba, 1 (♂); Santo Antonio de Guajará, 5 ♂, 3 ♀.

*T. n. huberi*.—BRAZIL: Santarem, 1 ♂.

*T. n. nigrocinereus*.—BRAZIL: Rio Tocantins, Ilha Itaiuna, 7 ♂, 7 ♀, 1 “♀” (= ♂); Baião, 1 ♀; Arumanduba, 1 ♀; Rio Xingú, Tapará, 1 ♂; Villarinho do Monte, 6 ♂, 4 ♀.

*T. n. cinereoniger*.—BRAZIL: Rio Negro, Santa Isabel, 1 ♂; Santa Maria, 1 ♂; San Gabriel, 1 ♀; Tabocal, 1 ♂; Tatú, 1 ♂, 1 ♀. VENEZUELA: Río Cassiquiare, El Merey, 1 ♂; mouth of Río Ocamo, 1 ♀; Solano, 1 ♀; Caño Durutomoni, 1 ♂, 1 ♀; Mt. Duida, Esmeralda, 2 ♂; Río Orinoco, Munduapo, 1 ♂, 1 ♀.

***Thamnophilus aethiops kapouni* Seilern**

*Thamnophilus aethiops kapouni* SEILERN, 1913 (December), Verh. Orn. Ges. Bayern, XI (4), p. 277—Yahuarmayo, Carabaya, s. e. Perú; ♂; Mus. Seilern, Leskna, Czecho-Slovakia.

The number of specimens known of this subspecies is not great and the various examples come from some widely separated localities. Two females at hand from eastern Perú help to clear up the probable lines of connection between these various places but there are still wide gaps where no examples have been taken to date. One of the present females is from Orosa, Río Amazonas; the other is from the mouth of the Río Urubamba. Thus a connection is possible within the Tropical Zone from Huachipa, upper Huallaga, to the lower Marañón, up the Ucayali and its affluents to Chuchurras and the mouth of the Urubamba, and thence southeastward across the low divide to the Madre de Dios Valley and the adjacent portions of Perú and northwestern Bolivia where the bird previously has been found.

The Orosa skin differs slightly from the specimen taken at the mouth of the Urubamba in that it is slightly darker both above and below, especially on top of the head, but the Urubamba skin is not fully adult. In any case, the differences are not greater than those shown by three females from Huachipa (in Field Museum of Natural History), and probably are purely individual. The Orosa specimen is distinctly darker than females of *juruanus* from the Rio Purús (in the Carnegie Museum) and can not be referred to that form; besides Mr. Todd informs me that his series from São Paulo de Olivença, Brazil, considerably east of Orosa, is referable to *kapouni* which probably thus ranges eastward to the left bank of the Juruá.



Peruvian localities where the bird has been taken, not included in the list of specimens examined, are Yahuar Mayo, San Gaban, and Chuchurras.

In studying the allied subspecies from various regions in Brazil, several points of interest have come to light. A male and female from Faro, across the Amazon from the recognized range of *punctuliger*, appear to be inseparable from that form and extend the range accordingly. They represent the first records of the species from Faro.

A large series of *polionotus* from the vicinity of Mt. Duida and the Cassiquiare in Venezuela help to bridge the gap between the records from the Río Caura and the upper Rio Negro in Brazil whence that subspecies was described. Several examples from various localities on the right bank of the Rio Negro carry the range of this form southeastward nearly to the mouth of that river at Igarapé Cacao Pereira.

A small series of skins from the left bank of the Rio Madeira, across the Amazon from the mouth of the Rio Negro are very like *polionotus*, but there are some differences associated with the geographical separation which warrant the recognition of a new subspecies from that restricted area. Hellmayr (Novit. Zool., XIV, p. 369, 1907; *op. cit.*, XVII, p. 339, 1910) noted a single male from Humaythá, in the same region, which he first identified with *polionotus* but later (Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, pt. 3, p. 82, 1924) believed to be only an aberrant example of *punctuliger*, found on the right bank of the Madeira. However, the present series shows clearly that the birds from the left bank have quite constant characters although they are, like *polionotus*, in a sense intermediate between *punctuliger* and *juruanus*, as would be expected from the relative geographical positions of the respective ranges. The description of the new form follows.

#### ***Thamnophilus aethiops injunctus*, new subspecies**

TYPE from Rosarinho (Lago Sampaio), Rio Madeira (left bank), Brazil. No. 281,902, American Museum of Natural History. Adult male collected June 27, 1930, by the Olalla brothers.

DIAGNOSIS.—Nearest to *T. a. polionotus* from the upper Rio Negro but slightly paler. Males with under parts paler gray, especially on the breast; lores clearer gray; back averaging lighter gray but black of head carried somewhat farther posteriorly, over the hind neck. Females duller, less rufescent above; breast and sides of head paler, less brownish; belly lighter, often ochraceous. Somewhat similar to *T. a. punctuliger* from the right bank of the Rio Madeira, but lacks the white interscapular patch in both sexes, while the upper wing-coverts are still tipped with white in the male; both sexes darker than *punctuliger*.

Females apparently indistinguishable from those of *juruanus* but males somewhat paler and with more white spotting on the upper wing-coverts, and with the black of the head not so deep nor so clearly defined from the gray of the superciliary region.

RANGE.—Left bank of the Rio Madeira, Brazil (probably ranging westward to the right bank of the Purús).

DESCRIPTION OF TYPE.—Top of head black though forehead is somewhat tinged with dark gray on the webs; this black is carried posteriad over the hind neck. Black Blackish Slate without any concealed white; sides of head, including a broad superciliary stripe, light Slate Color, paling into Slate-Gray  $\times$  Deep Neutral Gray on the throat and dark Slate-Gray on the breast and flanks; belly somewhat lighter with indications of whitish tips, not pronounced; thighs gray; under tail-coverts Deep Neutral Gray, with narrow whitish tips. Wings and tail blackish; remiges edged with the color of the back; upper wing-coverts (except primary series) and alula with a prominent, triangular, white spot at the tip of each feather, largest at the shoulder where they form a nearly solid white area; under wing-coverts grayish at base, white at tip; inner margins of quills pale but not sharply whitish; rectrices margined with the color of the back; outermost pair with a small, white, terminal spot. Bill black; feet slaty black. Wing, 76 mm.; tail, 58.5; exposed culmen, 16.25; culmen from base, 21; tarsus, 22.75.

REMARKS.—Females with top of head light Auburn  $\times$  Sanford's Brown, carried to the hind neck and rather sharply defined from the light Argus Brown back. Lower back somewhat duller than mantle and upper tail-coverts. Sides of head Auburn  $\times$  Amber Brown, passing into Amber Brown  $\times$  Sudan Brown on the throat; breast about Amber Brown; belly and under tail-coverts paler, sometimes Ochraceous-Tawny  $\times$  Cinnamon-Buff; flanks near the color of the breast; femoral areas darker and browner, Amber Brown  $\times$  Argus Brown. Wings blackish, quills margined with the color of the back; upper wing-coverts tipped with the color of the back though with slight indications of a paler terminal speck; under wing-coverts bright Ochraceous-Tawny; tail light Chestnut-Brown, with inner webs or margins sootier and outer margins brighter; tips of outermost two or three pairs buffy. Bill blackish, a little paler than in the male; feet slaty black. Wings, 71.75–75 mm.; tail, 55.25–59; exposed culmen, 16–17; culmen from base, 21; tarsus, 20–22.5.

A male not fully adult has the remiges (except the longest tertials) and the primary-coverts duller and margined with olive brown instead of gray; the alula is olive brown, with buffy outer margins; the belly is paler gray, more whitish.

Adult males measure as follows: wing, 74–78.25 mm.; tail, 58.5–63; exposed culmen, 16–17; culmen from base, 21–22; tarsus, 22–23.5.

The series of birds from various parts of Brazil shows good intergradation between adjacent subspecies. For example, a male of *atriceps*

from Caxiricatuba, Rio Tapajoz, has the top of the head hardly blackish and resembles *incertus*, while some males of *incertus* from the Tocantins have suggestions of blackish on the crown. The amount of white on the back and upper wing-coverts in males of *punctuliger* is extremely variable and one female from Igarapé Brabo, Rio Tapajoz, has no white on the mantle, resembling *atriceps*. A female of *punctuliger* from Villa Bella Imperatriz similarly lacks the white on the back and otherwise resembles *injunctus*. Two males of *punctuliger* from Matto Grosso have the white on the back much reduced and probably approach *kapouni* in that respect. A male of *polionotus* from the foot of Mt. Duida, Venezuela, has a distinct white patch on the mantle as in *punctuliger*.

*T. a. aethiops* of eastern Ecuador is the most noticeably distinct form, but its characters decidedly are only ones of degree, and hence need not be considered as of more than subspecific value.

A series of three males and three females of *juruanus* from Hyutanahán, Rio Purús (left bank?), kindly loaned by Mr. Todd, is rather exactly intermediate between the new form, *injunctus*, and *kapouni*. The males are somewhat clearer gray than those of *kapouni* but are not so pale as those of *injunctus*, and the amount of white on the upper wing-coverts varies between the one extreme and the other. The male which has the white tips on all the upper wing-coverts also has an unusual amount of white elsewhere, including a well-developed white interscapular patch which is not found normally in either *juruanus* or *injunctus*; whitish tips on the belly and the longer upper tail-coverts and a single white feather in the left malar region indicate some irregularity in coloration in addition to an approach toward *injunctus*. The white tips on the rectrices also are less well-developed in *juruanus*. The females of *juruanus* from the Purús are not certainly distinguishable from those of *injunctus*, described in a previous paragraph. Topotypical females from the Juruá have yet to be described.

I must confess myself unable to include *occidentalis* in the *aethiops* group and am not even convinced that it belongs in *Thamnophilus*. The rounded, exposed nostrils are almost as conspicuous in dorsal aspect as they are in lateral view. Furthermore, the white patch on the shoulder is formed in a different manner, the white spots on the lesser upper wing-coverts remain of uniform size to near the radial margin of the wing, and on the broad margin the feathers are almost entirely white nearly to their bases, sometimes with a terminal or subterminal area gray with or without a small white tip as on the longer coverts. In the *aethiops* group, the white tips of the lesser coverts become progressively

larger near the radial margin, expanding on the outer web or both webs but leaving the bases of the feathers dusky. The resemblance between the two patterns is purely superficial.

The same style of coloration is found in *Dysithamnus punctitectus* and a careful comparison between that species and *occidentalis* shows resemblance also in the structure of the bill; under wing-coverts with some whitish shaft lines but not broad whitish tips. In short, *occidentalis* resembles *D. punctitectus* in all respects except for its darker gray coloration and should be considered as conspecific with it. Since *occidentalis* is the older name it becomes the specific term for both subspecies.

There is considerable resemblance to *D. plumbeus leucostictus* in both *occidentalis* and *punctitectus*, but *leucostictus* has been found in at least two localities where *punctitectus* occurs including the type locality of the last-named form. The female from this locality, Oyacachi, Ecuador, actually shows some approach toward female *punctitectus* in the darkening of its general coloration, but it is still indubitably a *leucostictus*. Conversely, the female topotype of *punctitectus* has suggestions of white shaft-streaks on the sides of the head and throat. However, much more must be known of both species before any further association should be attempted.

#### SPECIMENS EXAMINED

*T. a. aethiops*.—ECUADOR: Sarayacu, 1 ♂; below San José de Sumaco, 3 ♂, 2 ♀; Río Suno, above Avila, 1 ♂, 1 ♀; mouth of Río Curaray, 1 ♂, 1 ♀; "Ecuador," 1 ♂.

*T. a. kapouni*.—PERÚ: Orosa, 1 ♀; mouth of Río Urubamba, 1 ♀; Huachipa, 1 ♂<sup>1</sup>, 3 ♀<sup>1</sup>. BOLIVIA: Todos Santos, 1 ♂; Mission San Antonio, Río Chimoré, 1 ♂.

*T. a. juruanus*.—BRAZIL: Hyutanahan, Río Purús, 3 ♂<sup>2</sup>, 3 ♀<sup>2</sup>.

*T. a. injunctus*.—BRAZIL: Rosarinho, Río Madeira (left bank), 5 ♂ (incl. type), 4 ♀.

*T. a. punctuliger*.—BRAZIL: Villa Bella Imperatriz, Río Amazonas, 18 ♂, 6 ♀; Limoal, Río Tapajoz (left bank), 2 ♂, 2 ♀; Igarapé Amorin, 2 ♂, 3 ♀; Igarapé Brabo, 4 ♂, 3 ♀; Faro, Río Jamundá, 1 ♂, 1 ♀; Morinha Lyra, Matto Grosso, 1 ♂; "Camp 9," Río Roosevelt, 1 ♂.

*T. a. atriceps*.—BRAZIL: Caxiricatuba, Río Tapajoz (right bank), 5 ♂, 3 ♀; Aramanay, 1 ♀; Piquiatuba, 1 ♀.

*T. a. incertus*.—BRAZIL: Baião, Rio Tocantins (right bank), 4 ♂, 1 ♀; Pedral, 2 ♂; Mocajuba, 1 ♂, 1 ♀; Utinga, near Pará, 2 ♂, 3 ♂<sup>1</sup>, 2 ♀<sup>1</sup>; Santa Isabel, 1 ♂, 1 ♀; Pará, 1 ♀; Tury-assú, Maranhão, 1 ♂<sup>1</sup>.

*T. a. polionotus*.—BRAZIL: Igarapé Cacao Pereira, Río Negro, 2 ♂; Santa Maria, 1 ♀; Riqueza, 1 ♂; San Gabriel, 1 ♂; Tabocal, 2 ♂. VENEZUELA: (Río Cassiquiare and vicinity of Mt. Duida), 20 ♂, 16 ♀.

*Dysithamnus o. occidentalis*.—COLOMBIA: Cocal, 1 ♂ (type).

<sup>1</sup>Specimens in Field Museum of Natural History, Chicago.

<sup>2</sup>Specimens in Carnegie Museum, Pittsburgh.



*D. o. punctitectus*.—ECUADOR: below Oyacachi, 2♂ (incl. type), 1 ♀; lower Sumaco, 1♂.

*D. ardesiacus leucostictus*.—ECUADOR: lower Sumaco, 7♂, 7 ♀; Guayaba, 1 ♀; below Oyacachi, 1 ♀; Sabanilla, 4♂, 3 ♀; Zamora, 1♂. COLOMBIA: Buena Vista, 1 ♀.

### ***Thamnophilus unicolor grandior* Hellmayr**

*Thamnophilus unicolor longicaudus* CHAPMAN (*nec* VIEILLOT), 1923, Amer. Mus. Novitates, 86, p. 1—Barro Blanco, Antioquia, Colombia; ♂; Amer. Mus. Nat. Hist.

*Thamnophilus unicolor grandior* HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, pt. 3, p. 84—new name for *T. u. longicaudus* CHAPMAN.

Four males and one female from Chaupe, recorded by Chapman (Bull. Amer. Mus. Nat. Hist., LV, p. 381, 1926), are the first examples noted from Perú, to which may be added a fifth male now at hand from Uchco.

These birds and a male from Zamora Ecuador, compare well with a series from Colombia and are not clearly distinguishable, although the range in Ecuador and Perú does not connect well with that in Colombia. In the last-named country, *grandior* occupies all the slopes of the three Andean ranges except the eastern slope of the eastern Cordillera, while in Ecuador and Perú it apparently occupies only that slope and is replaced in western Ecuador by typical *unicolor*.

The single female from Perú is as strongly rufescent on the upper parts as the most rufous females from Colombia but below is not so rufous as these but more like the duller Colombian females. Thus, while its range of coloration is entirely within that of the Colombian series, the exact combination of dorsal and ventral hues can not be perfectly matched. However, since no two of the Colombian birds are exactly alike, this fact is not likely to be very significant though it is worthy of further study when more material becomes available.

Several males from both Colombia and Perú have suggestions of tiny white spots on the tips of some of the upper wing-coverts. Young males have the upper wing-coverts brown tipped with ochraceous.

### ***Thamnophilus unicolor caudatus* Carrier**

*Thamnophilus unicolor caudatus* CARRIER, 1933 (March 24), Proc. Acad. Nat. Sci. Phila., LXXXV, p. 16—Río Jelashte, Perú; 5000 ft.; ♂; Acad. Nat. Sci. Philadelphia.

This form has been described recently and is unknown to me. As noted in the account of *grandior*, a male from Uchco (5000 ft.) is referable to that Colombian form. It shows no trace of the characters assigned to *caudatus*, having the wings entirely deep bluish gray above

and the measurements as in typical Colombian examples. This is all the more curious when the relative geographical positions of Uchco and the Río Jelashte are examined. Uchco is on a small affluent of the Río Mayo which empties into the lower Huallaga from the west, while the Río Jelashte is an affluent of the Huayabamba which likewise empties into the lower Huallaga from the west. There probably is a distance of about one hundred kilometers between Uchco and the unspecified point on the Río Jelashte at the same elevation as Uchco, where the skins of *caudatus* were obtained. That there is in rare instances a faunal distinction between the valleys of the Mayo and the Huayabamba is shown by my notes on the separation of *Tangara c. chilensis* and *T. c. chlorocorys* in the same region (Proc. Biol. Soc. Washington, XLII, p. 93, 1929). The range of *caudatus* must be very restricted unless it follows the upper Tropical Zone on the left side of the Huallaga toward the south where it has some little room for extension.

The characters of *caudatus* are suggested in immature *unicolor* and *grandior* where the tips of the greater upper wing-coverts are light in color, though tawny, not white.

#### SPECIMENS EXAMINED

*T. u. unicolor*.—ECUADOR: Zaruma, 2♂, 4♀; El Chiral, 3♂, 1♀; Salvias, 1♂; Coco, 1♂, 2♀; San Bartolo, 1♀; Las Piñas, 1♀; Mindo, 1♂.

*T. u. grandior*.—COLOMBIA: Barro Blanco, 2♂ (incl. type); Aguadita, 1♂; Gallera, 1♂, 1♀; San Antonio, 3♂, 1♀, 1♂<sup>1</sup>, 1♀<sup>1</sup>; La Palma, 1♂, 1♀; La Candela, 1♂, 1♀; Ricaurte, 1♂, 1♀; Cocal, 1 "♂" (= ♀); Cerro Munchique, 1♀; Fusugasugá, 1♀; Bogotá, 1♂<sup>1</sup>. ECUADOR: Zamora, 1♂. PERÚ: Chaupe, 4♂, 1♀; Uchco, 1♂.

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<sup>1</sup>Specimens in Field Museum of Natural History, Chicago.